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09/639,599	08/16/2000	Alex S. Toback	TOB/102/US	2976

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EXAMINER

OMGBA, ESSAMA

ART UNIT	PAPER NUMBER
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3726

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Please find below and/or attached an Office communication concerning this application or proceeding.



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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/639,599
Filing Date: August 16, 2000
Appellant(s): TOBACK, ALEX S.

MAILED

AUG 21 2006

Group 3700

Guy D. Yale
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed June 7, 2006 appealing from the Office action mailed July 21, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

Appeal No. 2004-2329 is related to this application

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

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4,426,425

GOOD et al.

1-1984

Applicant's Admitted Prior Art (AAPA), pages 1 and 3 of the specification.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-24 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Appellant's Admitted Prior Art (AAPA) in view of Orowan (US Patent 3,655,424).

With regards to claims 1-3, 8-10, 16, 17, 19, 20, 22 and 23, Appellant, at pages 1 and 3 of the specification to be known as AAPA, discloses a connection system for light gauge steel construction and an assembly wherein numerous self-drilling screws or other fasteners are used to provide the connection between a panel and a support structure. AAPA does not disclose applying an adhesive curable at room temperature to at least the panel or the support structure and placing them against each other.

However it is known to use an adhesive material between plates of a lap joint used in a connection with rivets or other fasteners as attested by Orowan, see column 1, lines 8-30 and figure 1. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used an adhesive material in the connection of AAPA, in light of the teachings of Orowan, in order to relieve the load on

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fasteners to a relatively small extent and give protection against fretting between the parts joined. Appellant should note that the connection of Orowan is significantly enhanced in load bearing capacity, see column 1, lines 24-29 in particular. Regarding the recitation of the adhesive being curable at room temperature, Applicant should note that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used an adhesive curable at room temperature to supplement the fasteners in the connection taught by AAPA/Orowan as evidenced by Appellant's admission that such adhesives are known, see page 3, lines 8-13 of the specification, in order to realize the benefits of using such known and readily available adhesives. Furthermore the product-by-process limitation that the adhesive is curable at room temperature does not affect the claimed connection system and therefore does not impart patentability to the product. As outlined above the connection system in the product-by-process claim is obvious from the connection of AAPA/Orowan. Furthermore the connection system itself comprises epoxy adhesive and at least one fastener in the joint. The fact that the adhesive was cured at room temperature does not further limit the structure of the final connection system. Even though product-by-process claims are limited and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

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For claims 4-7, 11-15, 18, 21 and 24, Appellant should note that it is within the general knowledge of one of ordinary skill in the art to select the appropriate adhesive for the connection and that fast setting adhesives are old and well known to those of ordinary skill in the art.

Claims 1-3, 16, 17, 19, 22 and 23 stand rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Orowan.

Appellant, at pages 1 and 3 of the specification to be known as AAPA, discloses a connection system for light gauge steel construction and an assembly wherein numerous self-drilling screws or other fasteners are used to provide the connection between a panel and a support structure. AAPA does not disclose applying an adhesive curable at room temperature to at least the panel or the support structure and placing them against each other. However it is known to use an adhesive material between plates of a lap joint used in a connection with rivets or other fasteners as attested by Orowan, see column 1, lines 8-30 and figure 1. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used an adhesive material in the connection of AAPA, in light of the teachings of Orowan, in order to relieve the load on fasteners to a relatively small extent and give protection against fretting between the parts joined. Applicant should note that the connection of Orowan is significantly enhanced in load bearing capacity, see column 1, lines 24-29 in particular. Regarding the recitation of the adhesive being curable at room temperature, Applicant should note that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used an adhesive curable at room

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temperature to supplement the fasteners in the connection taught by AAPA/Orowan as evidenced by Appellant's admission that such adhesives are known, see page 3, lines 8-13 of the specification, in order to realize the benefits of using such known and readily available adhesives. Furthermore the product-by-process limitation that the adhesive is curable at room temperature does not affect the claimed connection system and therefore does not impart patentability to the product. As outlined above the connection system in the product-by-process claim is obvious from the connection of AAPA/Orowan. Furthermore the connection system itself comprises epoxy adhesive and at least one fastener in the joint. The fact that the adhesive was cured at room temperature does not further limit the structure of the final connection system. Even though product-by-process claims are limited and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). For the recitation of "applying a bead of adhesive", owing to the commonly accepted meaning of the word "bead" to mean "a projecting band", the examiner contends that any coating of adhesive could be considered a "bead" and particularly the coating of adhesive as illustrated in figure 1 of Orowan is definitely a "bead".

Claims 4-7 stand rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA/Orowan as applied to claim 1 above, and further in view of Good et al. (US Patent 4,426,425).

AAPA/Orowan discloses a connection system as shown above except for the adhesive being a two-part epoxy system comprising a resin and a hardener mixed in equal portions by weight or volume wherein the adhesive fully cures within 72 hours. However Good et al. teaches such adhesive, see column 2, lines 26-34 and 49-53 and column 3, lines 8-20. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used a two-part epoxy adhesive system in the connection of AAPA/Orowan, in light of the teachings of Good et al., in order to achieve a superior shear and bond strength. Applicant should note that curable adhesives usually cure within 72 hours. Regarding the recitation of "a two-part epoxy system comprising a resin and hardener mixed in equal portions by weight or volume", as showed above Good et al. teaches a two-part epoxy system, see column 2, lines 49-53 and column 3, lines 8-25 where it is stated that "a useful range of hardener for the particular resin employed therein in parts by weight based on total parts by weight of resin plus hardener of 100, is indicated to be 16 to 30, or more. The most effective amount of hardener for any particular resin system, and its application, including curing considerations, are readily ascertainable by those of ordinary skill in the art." It is the examiner's position that the "16 to 30 or more" statement in Good et al. includes 50% by weight of hardener. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a two-part epoxy with an equal amount by

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weight of resin and hardener in the connection system of AAPA/Orowan/Good et al. since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Furthermore Appellant admits at page 3 of the specification that two-part epoxy adhesives mixed in equal portions by weight or volume and curable at room temperature are known.

Claims 8-15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Orowan and Good et al.

With regards to claims 8-11, Appellant, at pages 1 and 3 of the specification to be known as AAPA, discloses a connection system for light gauge steel construction wherein numerous self-drilling screws or other fasteners are used to provide the connection between a panel and a support structure. AAPA does not disclose applying a bead of epoxy curable at room temperature to at least the panel or the support structure and placing them against each other. However it is known to use an adhesive material between plates of a lap joint used in connection with rivets or other fasteners as attested by Orowan, column 1, lines 8-30 and figure 1. Furthermore, Good et al. teaches using an epoxy as adhesive to adhere metal members, see column 2, lines 26-34. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have an epoxy adhesive in the connection of AAPA, in light of the teachings of Orowan and Good et al., in order to relieve the load on the fasteners to a relatively small extent and achieve a superior shear and bond strength. Appellant should note that the connection of Orowan is significantly enhanced in load bearing

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capacity, see column 1, lines 24-29 of Orowan. Regarding the recitation of the adhesive being curable at room temperature, Appellant should note that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used an adhesive curable at room temperature to supplement the fasteners in the connection taught by AAPA/Orowan as evidenced by Appellant's admission that such adhesives are known, see page 3, lines 8-13 of the specification, in order to realize the benefits of using such known and available adhesives. Furthermore the product-by-process limitation that the adhesive is curable at room temperature does not affect the claimed connection system and therefore does not impart patentability to the product. As outlined above the connection system in the product-by-process claim is obvious from the connection of AAPA/Orowan. Furthermore the connection system itself comprises epoxy adhesive and at least one fastener in the joint. The fact that the adhesive was cured at room temperature does not further limit the structure of the final connection system. Even though product-by-process claims are limited and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Regarding the recitation of "a two-part epoxy system comprising a resin and hardener mixed in equal portions by weight or volume", as showed above Good et al. teaches a two-part epoxy system, see column 2, lines 49-53 and column 3, lines 8-25 where it is stated that

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"a useful range of hardener for the particular resin employed therein in parts by weight based on total parts by weight of resin plus hardener of 100, is indicated to be 16 to 30, or more. The most effective amount of hardener for any particular resin system, and its application, including curing considerations, are readily ascertainable by those of ordinary skill in the art." It is the examiner's position that the "16 to 30 or more" statement in Good et al. includes 50% by weight of hardener. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a two-part epoxy with an equal amount by weight of resin and hardener in the connection system of AAPA/Orowan/Good et al. since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Furthermore Appellant admits at page 3 of the specification that two-part epoxy adhesives mixed in equal portions by weight or volume and curable at room temperature are known. For the recitation of "applying a bead of adhesive", owing to the commonly accepted meaning of the word "bead" to mean "a projecting band", the examiner contends that any coating of adhesive could be considered a "bead" and particularly the coating of adhesive as illustrated in figure 1 of Orowan is definitely a "bead".

For claims 12-15, see column 2, lines 25-34 and column 3, lines 8-20 of Good et al.

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Claims 18, 21 and 24 stand rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA/Orowan as applied to claims 16, 19 and 22 above, and further in view of Good et al.

AAPA/Orowan discloses a connection system and an assembly as shown above except for the adhesive being selected from the group consisting of epoxy, methacrylate and urethane or the adhesive being a two-part epoxy system. However Good et al, teaches such adhesive, see column 2, lines 25-29. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used a two-part epoxy system as the adhesive of AAPA/Orowan, in light of the teachings of Good et al., in order to achieve superior shear and bond strength.

(10) Response to Argument

Appellant's arguments filed June 7, 2006 have been fully considered but they are not persuasive.

Regarding the affidavit under 37 CFR 1.132 filed May 11, 2005, it is noted that the affidavit is insufficient to overcome the rejection of claims 1-24 based upon AAPA/Orowan/Good et al. applied under 35 U.S.C 103 as set forth in the final Office action because the affidavit merely repeats the arguments presented by Appellant in response to the different Office actions present in the instant application. The examiner has clearly responded to each argument presented by Appellant in those Office actions; the same arguments are presented in the instant Appeal brief and will further be addressed by the examiner in the instant response.

Furthermore the affidavit states that the claimed subject matter solved a problem that was long standing in the art. However, there is no showing that others of ordinary skill in the art were working on the problem and if so, for how long. In addition, there is no evidence that if persons skilled in the art who were presumably working on the problem knew of the teachings of the above cited references, they would still be unable to solve the problem. See MPEP § 716.04.

In view of the foregoing, when all of the evidence is considered, the totality of the rebuttal evidence of nonobviousness fails to outweigh the evidence of obviousness.

In response to Appellant's arguments against the references individually (Appellant's argument that "there is no teaching or suggestion whatsoever in the AAPA of the use of an adhesive, nor the use of a second type of connecting of any kind, nor is there any teaching or suggestion that would motivate anyone in any conceivable way to look to an adhesive or any second connecting means"), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to Appellant's argument that "Appellant's invention was not motivated in any fashion by the mechanical integrity or load-bearing capacity of the fasteners employed in the prior art structures to which Appellant's invention relates. Appellant was motivated to provide a connecting system for light-gauge steel which was less labor intensive and which would accordingly be less costly to implement", the fact that Appellant has recognized another advantage which would flow naturally from

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following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

In response to Appellant's argument that the relevant features of Appellant's claims (that the load-bearing capacity of the adhesive is such that the panel is joined to the structure in a connection which is significantly enhanced in load-bearing capacity to a connection provided only by the at least one fastener) are not disclosed in the Orowan reference or any other cited reference, it is noted that the features upon which Appellant relies (i.e., the load-bearing capacity of the adhesive is such that) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore it has been shown that structural epoxy adhesives curable at room temperatures are old and well known in the art.

In response to Appellant's argument that the combination of AAPA/Orowan does not disclose, teach or suggest a feature wherein "said panel is joined to said structure in a connection which is significantly enhanced in load-bearing capacity to a connection provided only by the at least one fastener", the examiner submits that in as much as the system of AAPA is structurally equivalent to the claimed system, the system of AAPA achieves the same result (enhanced load-bearing capacity) as Appellant's claimed system.

In response to Appellant's argument that there is no teaching of any epoxy system in the AAPA/Orowan combination, or that Appellant cannot find any specific teaching of a two-part epoxy system comprising a resin and hardener mixed in equal proportions by weight or volume, Appellant is directed to page 3, lines 8-12 of the specification where it is stated that "One acceptable adhesive employed in the invention is an adhesive sold as Formulation No. 12059A marketed by the Advance Adhesive Systems, Inc., of Newington, Connecticut. The adhesive is a two part epoxy system having a substantially 1:1 resin/hardener mix by weight or volume which has a very high viscosity and cures at room temperature". This clearly shows that such adhesives are old and well known in the art. Appellant is also directed to the relevant portion of Good et al. as shown in the above rejections (column 3, lines 9-21).

In response to Appellant's argument that nowhere does Good et al. mentions the structures as recited in the claims (for example the connection of light-gauge steel panel to a second member, once again as outlined above, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to Appellant's Argument that none of the references disclose, teach or suggest the "bead of epoxy" as recited in the claims, the examiner respectfully disagrees. Figure 1 of Orowan clearly shows a bead of adhesive (reference numeral 8). Furthermore as outlined in the rejections epoxy adhesives are old and well known in the art.

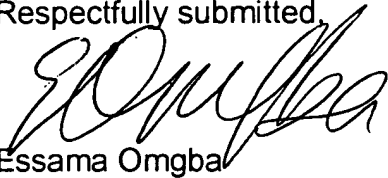
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(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

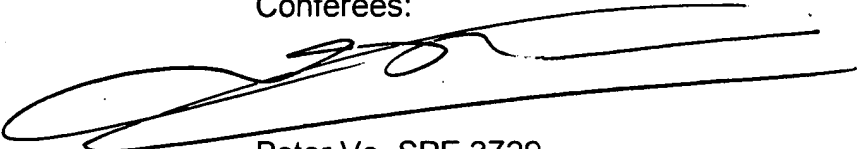
Respectfully submitted,



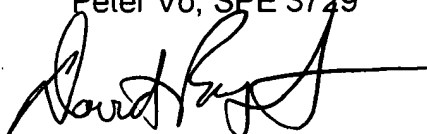
Essama Omgba

August 17, 2006

Conferees:



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